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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/744,001	03/16/2001	Ansgar Behler	H 3329 PCTUS	1655

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EXAMINER

OH, TAYLOR V

ART UNIT	PAPER NUMBER
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1625

DATE MAILED: 01/29/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/744,001

Applicant(s)

BEHLER ET AL.

Examiner

Taylor Victor Oh

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 January 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6. 6) ☐ Other:

The restriction requirement has been withdrawn.

Status of Claims:

Claims 1-10 have been canceled.

Claims 11-24 are pending.

Claim Rejections - 35 USC § 112

Claims 11, 14, and 16 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a carboxylic acid ester, such as an ester of a C₆₋₂₂ carboxylic acid and C₁₋₂₂ monoalcohols or a polyol having from 2 to 6 hydroxyl groups and 2 to 32 carbon atoms, does not reasonably provide enablement for all the carboxylic acid esters. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to include all the carboxylic acid esters unrelated to the invention commensurate in scope with these claims. Therefore, an appropriate correction is required.

The specification, while being enabling for an alkylene oxide, such as ethylene oxide, propylene oxide, butylenes oxide, does not reasonably provide enablement for all the alkylene oxides. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to include all the alkylene oxides unrelated to the invention commensurate in scope with these claims. Therefore, an appropriate correction is required.

The specification, while being enabling for an alcoholate, such as monoalcohols containing 1 to 6 carbon atoms, does not reasonably provide enablement for all the

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alcoholates. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to include all the alcoholates unrelated to the invention commensurate in scope with these claims. Therefore, an appropriate correction is required.

The specification, while being enabling for an carboxylate, such as monobasic carboxylic acids containing 1 to 22 carbon atoms, does not reasonably provide enablement for all the carboxylates. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to include all the carboxylates unrelated to the invention commensurate in scope with these claims. Therefore, an appropriate correction is required.

Claim 23 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A term "autogenous pressure" is written. However, this is vague and indefinite as to its meaning in the process. Therefore, an appropriate correction is required.

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This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 11-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Quack et al (EP 335,295).

Quack et al teaches a preparation of alkylene glycol ethers by reacting carboxylic acid esters of formula R-COOR' where R is 1 to 25 alkyl groups; R' is 1 to 10

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alkyl groups, with ethylene oxide at a temperature of from 100 to 200⁰ C. in the presence of hydroxide ,oxide, or alcoholate of an alkali metal or alkaline earth metal catalyst. The reaction is conducted at from 130 to 180⁰ C. in a molar ratio of ester and alkylene oxide (1:5-25) in an amount of from 0.05 to 5 weight % of catalyst (see page abstract).

However, the instant invention differs from the reference in that the weight ratio of the sodium to the potassium salt is from 20:1 to 1:20.

Concerning the weight ratio of the sodium to the potassium salt, the limitation of a process with respect to ranges of pH, time and ratio does not impart patentability to a process when such values are those which would be determined by one of ordinary skill in the art in achieving optimum operation of the process. The weight ratio of the catalysts is well understood by those of ordinary skill in the art to be a result-effective variable, especially when attempting to control selectivity of a chemical process in the absence of an unexpected result.

Therefore, it would have been obvious to the skillful artisan in the art to have optimized the weight ratio of the sodium to the potassium salt in the Quack et al process by routine experiment. This is because the skilled artisan in the art would expect to increase the yield of the desired product by the manipulation of the weight ratio of the catalysts.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Yoshihara et al (U.S. 4,022,808) teaches a process of producing an alkylene glycol ether ester of an organic acid by reacting an alkylene oxide and an ester of carboxylic acid by using a basic catalyst selected from zinc, aluminum, titanium, and etc..

Nakamura et al (U.S. 5,012,012) teaches a process for producing an alkylene oxide adduct of an alcohol in the presence of an alkoxylation catalyst consisting of magnesium oxide.

Yoshihara et al (U.S. 4,022,808) teaches a process of producing an alkylene glycol ether ester of an organic acid by reacting an alkylene oxide and an ester of carboxylic acid by using a basic catalyst at a temperature of 50 to 300⁰ C. .

Yotsuzuka et al (U.S. 3,370,056) teaches a process of producing polyoxyalkylene polymers by allowing an alkylene oxide and an initiator in the presence of an alkali metal or alkaline earth metal catalyst.

Muller (Wo 94/05719) teaches a process of preparing polytetramethylene ether glycol esters by polymerization of tetrahydrofuran in the presence of a fixed-bed polymerization catalyst, such as aluminium silicate.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Taylor Victor Oh whose telephone number is 703-305-0809. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alan Rotman can be reached on 703-308-4698. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-2742 for regular communications and 703-305-7401 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1235.

A handwritten signature in black ink, appearing to be 'M' or 'W' with a flourish.

January 26, 2003